



30 August 2019

## Design and Construction Standards – Amendment 1 Issued 30 August 2019

In July 2018, Icon Water issued its “new” design and construction standards. These standards differ from Icon Water’s previous “WS&S” standards due to the fact that they are now harmonised with Water Services Association of Australia (WSAA) codes. We have now had more than 12 months of use with these new WSAA code based standards and in that time we have received feedback from internal staff, external designers, consultants, contractors and government agencies. This feedback has been used to amend and improve the Icon Water design and construction standards which have now been issued (as “Amendment 1”) today.

Given the consultation and feedback associated with this (first) amendment, we are hopeful that the majority of “speed bumps” and “gremlins” have been taken out of the design and construction process. However, we are never satisfied with the status quo and are always looking to improve. With this mind, we plan on scheduling minor amendments annually (i.e. the next amendment is due in August 2020) and major amendments every five years (in-line with amendments to WSAA codes). Should you be interested in providing feedback which will inform the next amendment, please do so at any time by emailing: [talktous@iconwater.com.au](mailto:talktous@iconwater.com.au) with “standards” referenced in in the subject line.

As always, our Developer Services and Customer Services teams are always willing to explain Icon Water’s requirements. In the mean-time, a schedule has been provided over-the-page which provides a listing of the (key) amendments published in this issue of Icon Water’s design and construction standards. For a full listing, refer to each individual amended standard.

Yours sincerely,  
On behalf of Icon Water,

Karl Danenbergsons  
Principal-in-Charge – Design and Construction Standards



Item	Referenced Standard	Summary of Key Amendment Details
1	SD Series of drawings	<p>Refer to individual drawings for specific amendment details but in summary:</p> <ul style="list-style-type: none"> <li>• A number of drawings have been changed from “-C” to “-D” which now allows them to be referenced in a designer’s project drawing set rather than being re-drawn.</li> <li>• A new sub-set of drawings depicting sewage pumping station has been added (4100 series).</li> <li>• An example hydraulic connections drawing (SD-1104) has been added.</li> <li>• Minor wording changes to Icon Water signage (1300 series).</li> <li>• Sewer tie depth increased to 2500 mm by special approval (SD-2005 and SD-2006).</li> <li>• Allowance for compacted dry premix to be used at sewer junctions as per previous historical practices (SD-2006).</li> <li>• New drawings added relating to sewer mains renewal (SD-2010 and SD-2011).</li> <li>• New “-D” drawing added which depicts minimum pipe cover, clearances etc. for “standard” conditions (SD-2106).</li> <li>• New “-D” drawing added for trench embedment and backfill details” for use in “standard” conditions (SD-2107).</li> <li>• Reinforced plastic maintenance hole covers added for retrofit applications by Icon Water personnel (SD-2204).</li> <li>• Error correcting orientation of socket-spigot in maintenance hole bases (various drawings).</li> <li>• Rural / Semi-Rural air valve chamber cover re-designed as a hinged cover (various drawings).</li> <li>• G66 Environment Green to AS 2700 is no longer the default colour for above-ground enclosures (e.g. water meters) if the</li> </ul>

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		<p>designer has nominated a finish colour that Icon Water has accepted as part of the design acceptance process (various drawings).</p> <ul style="list-style-type: none"> <li>• Stop valves either side of a property service connection at the main are now required by default for connections sized DN100 and larger (SD-3308, 3310 and 3312).</li> <li>• Pre-engineered thrust block details re-instated from the “old” WSS drawing set for in-line stop valves (SD-5001).</li> <li>• Pre-engineered pipe penetration details added as a new sub-set of drawings (SD-5017, 5018 and 5019).</li> <li>• Reservoir roof level sensor mounting has been re-designed (SD-6100).</li> <li>• Error corrections for various ladder and hatch drawings.</li> <li>• New double hatch drawing added for SPSs (SD-8215).</li> <li>• New instrumentation hatch drawing added (SD-8218).</li> </ul>
2	<p><i>STD-SPE-G-011</i> <i>WSA 02 Supplement</i> <i>Gravity Sewerage Code</i></p>	<ul style="list-style-type: none"> <li>• Corrected an error with the definition of <i>TCCS</i>.</li> <li>• Added a definition for <i>NATA</i>.</li> <li>• Amendment to Table IW.1 Design Equivalent Populations – EP per unit for “Shops and Offices” now set by default to 300 when information on employee numbers is unavailable.</li> <li>• Calculation of <i>RDI</i> (Eqn. 3.4.4.1) changed with <math>A_{Eff}</math> replacing <i>NSA</i>.</li> <li>• Error correction: PVC pipe cannot be bent to form curved alignments unless it is joined by cold solvent welding. Previously, this joint type was not specifically noted.</li> <li>• Minimum and maximum sewer tie depths are now to be found in Icon Water specification <i>STD-SPE-M-006</i>. Note: Maximum depth is 1500 mm unless a special approval is obtained from Icon Water (for a depth up to 2500 mm) in certain circumstances.</li> </ul>

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		<ul style="list-style-type: none"> <li>• Table IW.10 <i>MH Cover Requirements</i> has been updated in line with the update to Icon Water standard drawing SD-2204.</li> <li>• Class B reinforced plastic covers are now approved in certain retrofit projects but can only be installed by Icon Water personnel.</li> <li>• The requirements for polyethylene sleeving of DICL has now been amended to be consistent with the requirements contained within the Icon Water <i>Approved Products List (STD-SPE-G-006)</i>.</li> <li>• New section titled “<i>Appendix A – Additional requirements for pressure instrumentation</i>” has been added.</li> <li>• New section titled “<i>Appendix B – Update history</i>” has been added.</li> </ul>
3	<p><i>STD-SPE-G-012</i> <i>WSA 03 Supplement</i> <i>Water Supply Code</i></p>	<ul style="list-style-type: none"> <li>• Corrected an error with the definition of <i>TCCS</i>.</li> <li>• Added a definition for <i>NATA</i>.</li> <li>• Pressure mains are not to be located in private property.</li> <li>• PVC pressure pipes cannot be bent to form curved alignments.</li> <li>• Stop valves are required either side of the tee (on the main) when a take-off sized DN100 or larger is installed. Otherwise, for smaller connections to mains, Icon Water will advise if two stop valves are required.</li> <li>• Requirements for sleeving of DICL pipes now updated to be in-line with the requirements shown in the Icon Water <i>Approved Products List (STD-SPE-G-006)</i>.</li> <li>• Requirements for pressure gauges updated (for hydrostatic testing).</li> <li>• New appendix added titled “<i>Additional requirements for pressure instrumentation</i>” which details specific requirements for pressure instrumentation (for hydrostatic testing).</li> <li>• New appendix added titled “<i>Update history</i>” which provides a tabulation of updates between issues of this specification.</li> </ul>
4	<p><i>STD-SPE-G-017</i> <i>Service &amp; Installation Rules</i></p>	<ul style="list-style-type: none"> <li>• Icon Water has now reduced its access passage requirement as detailed in Appendix O Principle 8. For pipe depths &lt; 2.2 metres, only 1.8 metres of access width is now</li> </ul>

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		required. Between 2.2 and 3.0 metres of depth, only 2.50 metres of access width is now required.
5	<i>STD-SPE-G-019 Access Creation and Acceptance Process</i>	<ul style="list-style-type: none"> <li>• Minor process updates and error corrections.</li> </ul>
6	<i>STD-SPE-M-006 Requirements for Property Service Connections and Water Meters</i>	<ul style="list-style-type: none"> <li>• Added the following abbreviations: <i>CCTV, ITP, NATA</i> and <i>TCCS</i>.</li> <li>• Added definitions for <i>Brownfield, Infill</i> and <i>Greenfield</i>.</li> <li>• Sewer depths up to 2500 mm may be approved by Icon Water in certain applications.</li> <li>• Stop valves either side of the branch on the main are now required for connections sized DN100 and larger.</li> <li>• All pipes stored outside at the job site overnight are to be capped.</li> <li>• DICL pipe sleeving requirements updated in-line with the Approved Products List.</li> <li>• Meter pits constricted of standard brick-work are no longer acceptable.</li> <li>• The minimum cover values in Table 7.9.1 have been corrected to match the values shown on the SD Series of drawings. Note: This was an error in the previous issue.</li> <li>• Example SD series drawings quoted for bedding and backfill (SD-2106 and SD-2107).</li> <li>• New section titled “Direct boosting from the Icon Water network”.</li> <li>• Icon Water may now approve direct boosting under certain circumstances.</li> <li>• New section titled “Acceptance testing” which provides more detail on the testing required for property service connections.</li> <li>• New section titled “Acceptable analogue pressure gauge examples” which shows photographs of acceptable analogue pressure gauges for hydrostatic testing of water mains-to-meter pipe runs and vacuum testing of sewer mains-to-tie pipe runs.</li> </ul>



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		<ul style="list-style-type: none"> <li>• New section titled “Acceptable analogue pressure gauge examples” which shows photographs of acceptable analogue pressure gauges for hydrostatic testing of water mains-to-meter pipe runs and vacuum testing of sewer mains-to-tie pipe runs.</li> <li>• New section titled “Update history” which provides a tabulation of updates between issues of this specification.</li> </ul>
7	<i>Building requirements for Icon Water approval (guidance material)</i>	<ul style="list-style-type: none"> <li>• Change to Table 2 “Pipe protection envelope, access passage and setback requirements” in-line with the maintenance access passage requirements changes detailed in the “Services &amp; Installation Rules” document.</li> </ul>
8	<i>Design Form Pack Major Works</i>	<ul style="list-style-type: none"> <li>• Section 8 – Land Use Details updated with regards the EP for “Shops and Offices” as per <i>STD-SPE-G-011</i>.</li> <li>• Line item added relating to applying to directly boost from the water main.</li> </ul>
9	<i>Design Form Pack Minor Works</i>	<ul style="list-style-type: none"> <li>• Section 8 – Land Use Details updated with regards the EP for “Shops and Offices” as per <i>STD-SPE-G-011</i>.</li> <li>• Line item added relating to applying to directly boost from the water main.</li> </ul>